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Rapid appraisal for fuelwood planning in Nepal

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• Introduction

Collecting information for planning complex problems such as fuelwood in rural areas is difficult. These problems are highly variable, express themselves indirectly and are locality-specific. Their investigation requires sensitivity to local situations across a variety of fields. Fuelwood problems are about far more than just energy: land use and tenure, forestry, environmental stress and farming systems must al be looked at if these problems are to be understood and effective solutions developed. And yet people involved directly in planning never have the luxury of time to assess the situation, and should be reluctant to commit large quantities of resources which could be used to finance direct activities.

The Dhanusha District Sustainable Fuelwood Strategy and Action Plan is a project financed by the EEC and executed by the Forestry Department, Government of Nepal. The ETC Foundation was commissioned to evaluate the situation and prepare an action plan to enact sustainable solutions to the District's problems. Substantial prior experience of fuelwood Planning has taught us the following:

- Fuelwood problems and intervention opportunities are specific to people and places, and are a function of access to land resources;
- Fuelwood problems express themselves indirectly; as a series of responses to resource stress;
- Fuelwood stress is basically an issue of poverty, and is closely related to wider environmental stress; and,
- Successful fuelwood interventions will frequently be indirect and small-scale. Packages of appropriate initiatives which are tailored to local opportunities and incorporate local knowledge and priorities must be developed.

These initial assumptions formed the basis of a rapid appraisal of Dhanusha District in southern Nepal. The appraisal aimed to identify the form fuelwood problems take and local initiatives and resource opportunities on which sustainable interventions could be built. An initial appraisal of the district showed that three types of locality needed to be assessed. These were rural areas in the Terai Plain, the main urban area and the designated forest area in the Siwalik Hills.

A reconnaissance survey was carried out to obtain general knowledge about the district's physical and social characteristics, which also included general observation of the landscape and assessment of the existing woody and other biomass resources.

Twenty villages, representing all parts of Dhanusha District, were visited during the reconnaissance survey. The field team prepared detailed notes on each village, while impressions were fresh, and discussed them with forestry officials, local people and district-level development actors.

Out of the 20 villages covered in the reconnaissance survey, 5 villages were chosen for in-depth inquiry: Tadiya, Ramdaiya, Sabaila, Goth Koilpur and Thadi. The main criteria for selecting these sites were:

- Their distance from the forest area in the north;

Source: RRA Notes (1989), Issue 5, pp.11–14, IIED London

- Their accessibility to the district's transport network; and,

- The magnitude of their fuelwood problem.

Four major techniques were employed for the collection of data:

- Detailed observation of landscape, housing pattern, trees and vegetation cover, cropping and livestock patterns, etc. A series of sketch maps and check lists were prepared to represent this information;

- Group discussions with local people regarding fuelwood problems, biomass resource management practices and attitudes towards forestry and other intervention options;

- Discussions with selected individual members of the community on general socio-economic issues, the availability of local resource opportunities and responses to fuelwood problems at the household level, in which both men and women were included; and,

- In-depth structured interviews with 30 households in each village involving both men and women. These households were chosen from 6 major tenural classes: landless; below 1 bigha; 1 to 2.5 bigha; 2.5 to 4 bigha; over 4 bigha; tenants/shareholders.

Land tenure patterns, livestock ownership, fuel use patterns and details of the numbers and the types of trees grown were issues covered in the interviews. These in-depth interviews were designed to identify the resource base and the intervention possibilities across the various tenural classes.

Urban area study methodology

In the urban area, a number of households, large and small fuelwood-using industries and urban fuelwood dealers were visited by the team members, and informal discussions were held in order to collect information on the pattern of fuel demand, the existing supply situation and the price of fuel in urban areas.

In order to understand the fuel use pattern and the possibilities of fuel saving/switching at the household level, the urban population was broadly divided into low, middle and upper income households and 13 households were interviewed from each category, thus totalling 39 households.

In both rural and urban areas local people were hired for the in - depth structural interviews and for the translation and the tabulation of all the data collected.

Methodology for the forest area in the Siwalik Hills

During the field work a forest exit survey was executed with the help of 6 local people from Ramdaiya. The amount of fuelwood, fodder and timber which was brought out of the forest, was counted for one week, day and night. This occurred at the three main exit points at Chisapani, Tulsi Pato, and Bisrampur. Typical weights for different types of load were calculated and the data was used to assess the quantity of woody biomass being extracted from the forest area.

The broad quantity of woody biomass in the forest area was also assessed. Data collection on the woody biomass supply from different strata of the Siwaliks was done as follows:

- In each stratum (riverine stream banks: Siwalik Hills southern part, Siwalik Hills northern part) one plot was taken to measure trees and in each plot two sub-plots for measure of undergrowth.

  Each Plot: 100m wide and 1000m long (100,000 $m^{2)}$. All trees measured > 5cm dbh (diameter breast height).

  Total: 4 plots.

  Each sub-plot: 2m wide and 5m long ($10m^2$). All undergrowth was cut and weighed; fresh to dry weight is discounted by 30%.

  Total: 8 sub-plots.

- The volume figures were transferred into weight figures using 600 kg/m^3 which was transferred into tonnes/ha. Tree yield was

Source: RRA Notes (1989), Issue 5, pp.11–14, IIED London

based on a 100 year rotation. The quality of the forest cover in different areas was also assessed by observation, as were signs of environmental stress, selective extraction of tree species and areas which appeared to offer potential for intervention.

The duration of the fieldwork was approximately 2 months, during which time links were also established with local officials and selected community groups in order to establish an institutional structure for the implementation of the fuelwood strategy. The goal was to establish 'user groups' among target communities such as the landless, small farmers or women. These user groups were to be the executing agency for a series of small, local initiatives which they would develop in partnership with staff from district-level institutions such as the forestry department and the agriculture extension service. The goal was to give these target groups control over the choice of intervention to address their fuelwood problems and control over the resources (both land and financial) needed to execute the interventions.

The adoption of a rapid appraisal technique permitted us to identify the sections of the community facing fuelwood stress, their responses to this stress and the local resource opportunities for interventions to build a sustainable fuelwood future. For this, rigorous quantification of supply and demand *is* not necessary and pre-determination of technical choice *is* an irrelevance. The basis of sustainable development, harnessing local knowledge and building on local initiatives, requires a flexible, participatory approach to planning. For this a rapid appraisal approach is ideal.

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Source: RRA Notes (1989), Issue 5, pp.11–14, IIED London